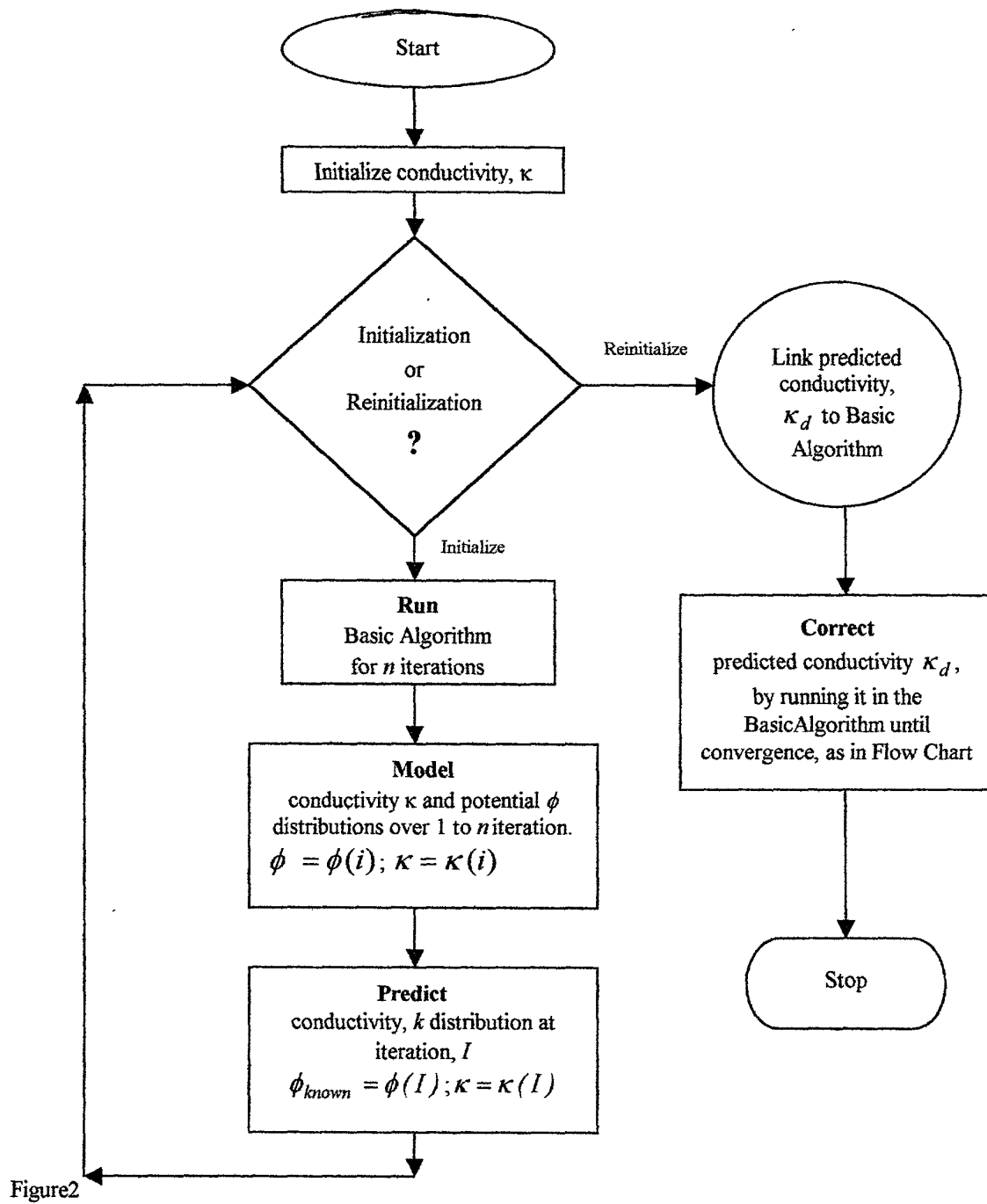


Figure 1

```
graph TD
    Start([Start]) --> Init[Initialize conductivity, κ]
    Init --> Decision{Initialization  
or  
Reinitialization  
?}
    Decision -- Initialize --> Run[Run  
Basic Algorithm  
for n iterations]
    Run --> Model[Model  
conductivity κ and potential ϕ  
distributions over 1 to n iteration.  
ϕ = ϕ(i); κ = κ(i)]
    Model --> Predict[Predict  
conductivity, k distribution at  
iteration, I  
ϕ_known = ϕ(I); κ = κ(I)]
    Predict --> Decision
    Decision -- Reinitialize --> Link((Link predicted  
conductivity,  
κ_d to Basic  
Algorithm))
    Link --> Correct[Correct  
predicted conductivity κ_d,  
by running it in the  
BasicAlgorithm until  
convergence, as in Flow Chart]
    Correct --> Stop([Stop])
```

The flowchart illustrates an iterative algorithm for predicting conductivity distribution. It begins with a 'Start' terminal, followed by an 'Initialize conductivity,  $\kappa$ ' process. A decision diamond asks 'Initialization or Reinitialization?'. If the answer is 'Initialize', the flow proceeds to 'Run Basic Algorithm for  $n$  iterations', then to 'Model conductivity  $\kappa$  and potential  $\phi$  distributions over 1 to  $n$  iteration.  $\phi = \phi(i); \kappa = \kappa(i)$ ', and finally to 'Predict conductivity,  $k$  distribution at iteration,  $I$ .  $\phi_{known} = \phi(I); \kappa = \kappa(I)$ '. The flow then loops back to the decision diamond. If the answer is 'Reinitialize', the flow proceeds to 'Link predicted conductivity,  $\kappa_d$  to Basic Algorithm', then to 'Correct predicted conductivity  $\kappa_d$ , by running it in the BasicAlgorithm until convergence, as in Flow Chart', and finally to a 'Stop' terminal.



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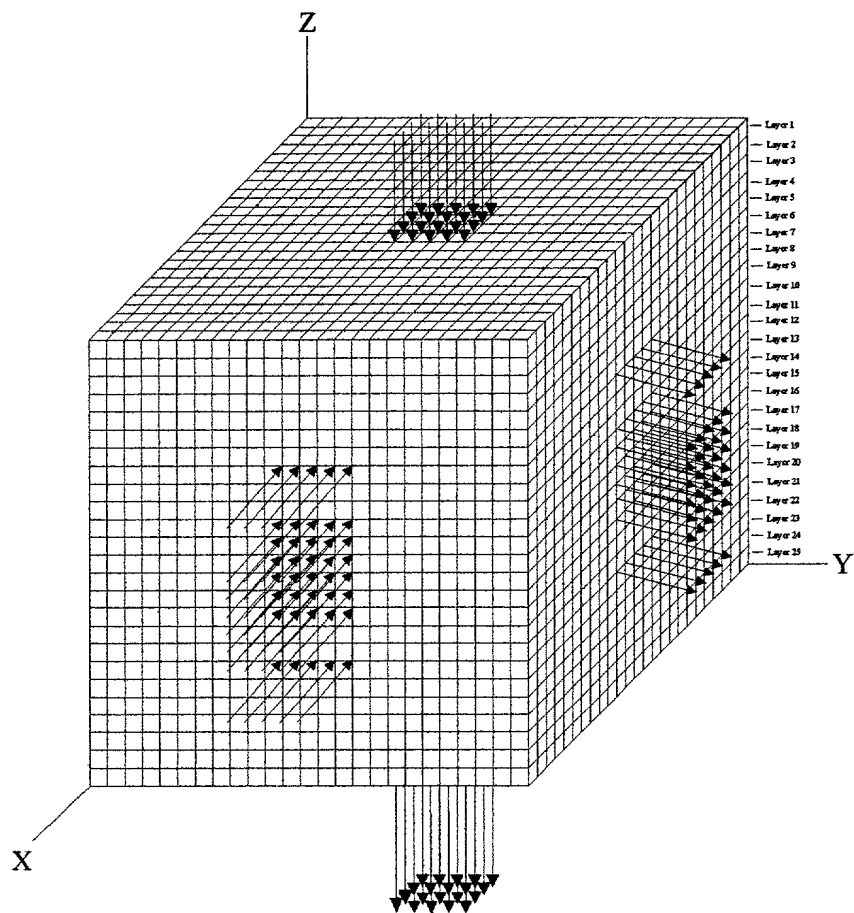


Figure 3

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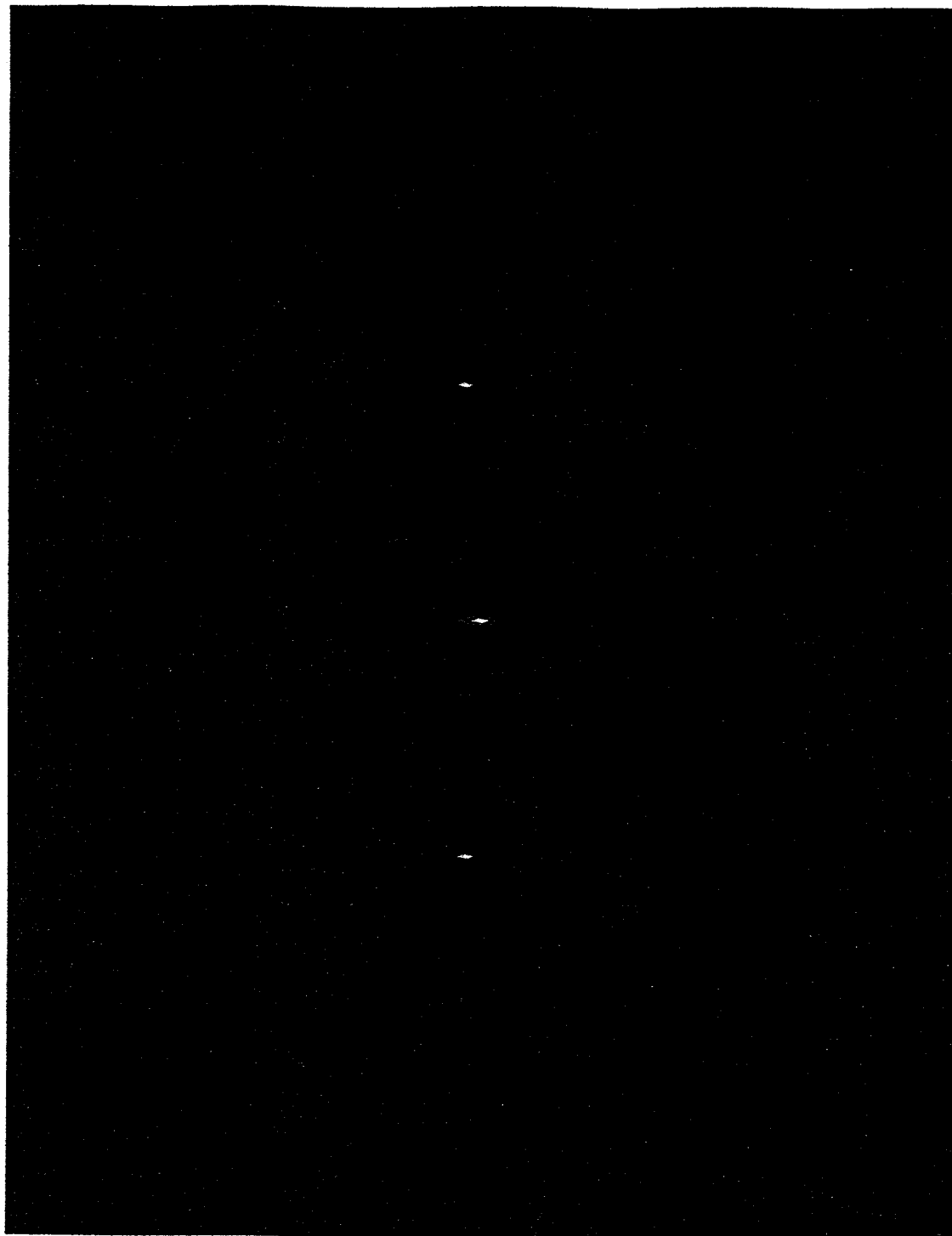


Figure 4

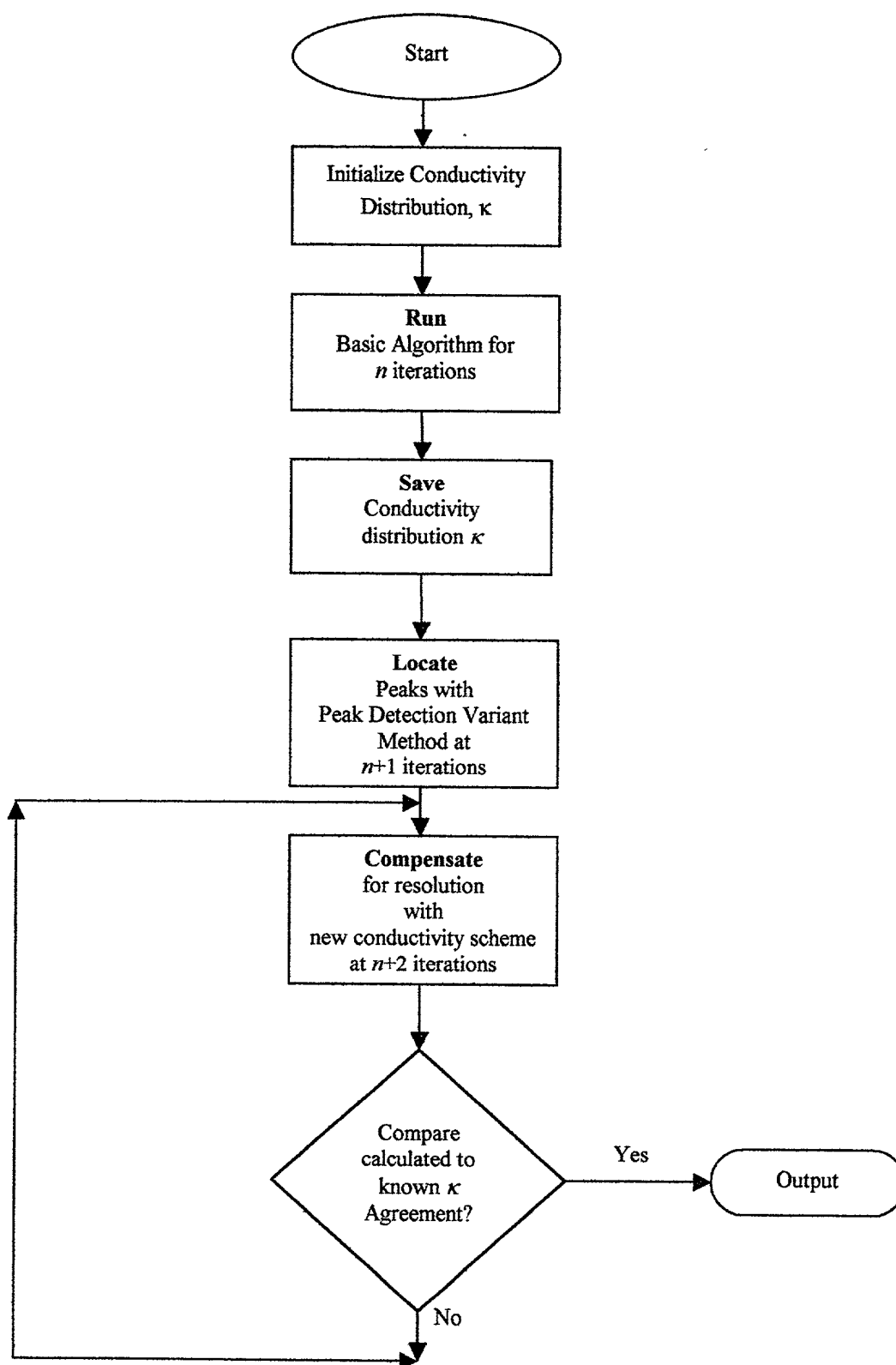


Figure 5

TOGETHER WE CAN SAVE THE WORLD

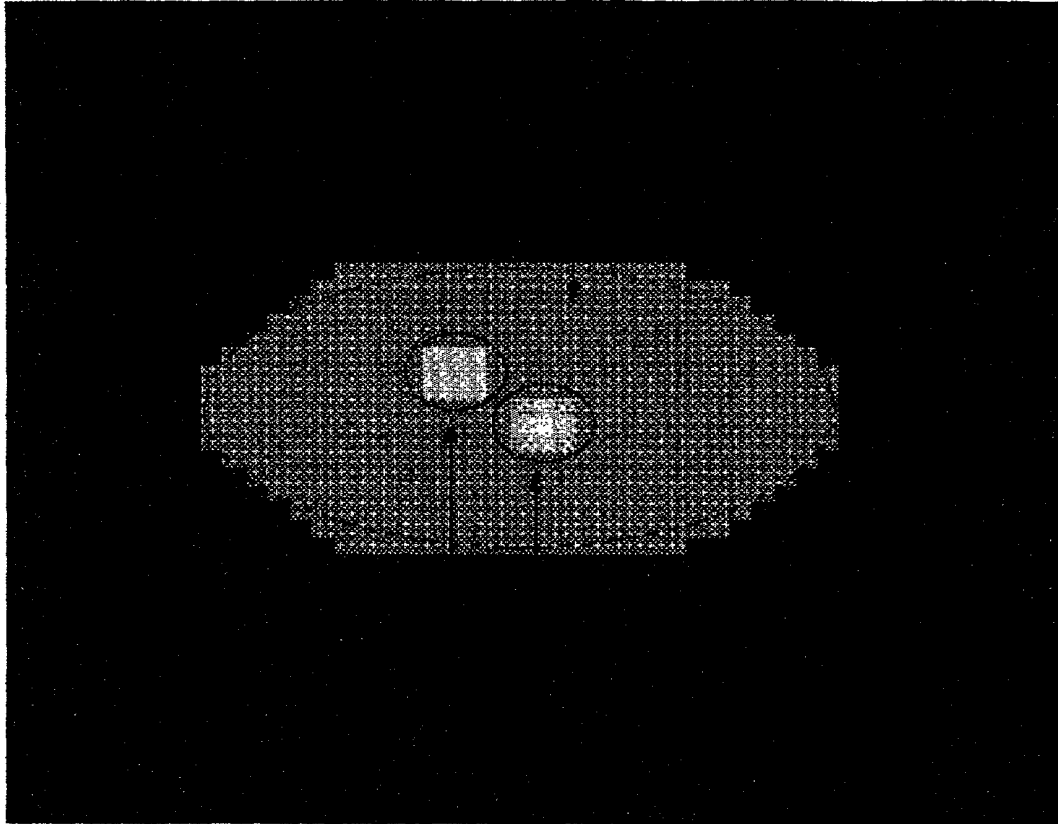


Figure 6